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54 **Process for the detection of restriction fragment length polymorphisms in eukaryotic genomes.**

57 The invention is directed to a process for the analysis of eukaryotic DNA wherein DNA of an individual is isolated, the DNA is subjected to restriction endonuclease digest, the cleaved DNA is separated by gel electrophoresis, the gel is dried and hybridized with a probe, and the pattern of the DNA is evaluated. The process is characterized in that the probe used is an oligonucleotide which specifically hybridizes to eukaryotic simple tandem repeats having a periodicity of 2 to 4 bases.

The process of the invention may be employed for the *in vitro* diagnosis of genetic defects such as hereditary diseases or for the determination of the genetic interrelationships.

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DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	HUMAN GENETICS vol. 74, no. 3, 1986, pages 239-243, Berlin, DE; S. ALI et al.: "DNA finger printing by oligonucleotide probes specific for simple repeats" * the whole document *	1-19, 31-34	C 12 Q 1/68
D,Y	CHROMOSOMA vol. 93, no. 6, 1986, pages 502-510, Berlin, DE; R. SCHAEFER et al.: "The organization of the evolutionarily conserved GATA/GACA repeats in the mouse genome" * the whole document *	1-6,11, 15,19, 31-34	
Y	EP-A-0 186 271 (LISTER INSTITUTE OF PREVENTIVE MEDICINE) * abstract; page 3, line 18 - page 6, line 13; page 12, line 8 - page 14, line 14; page 16, line 30 - page 19, line 6; page 24, lines 1-17; claims *	1-6,11, 15,19, 31-34	
A	EP-A-0 164 054 (CETUS CORPORATION) * the whole document *	1-3,31,34	
A	CHROMOSOMA vol. 66, no. 1, 1978, pages 23-32, Berlin, DE; L. MANUELIDIS: "Chromosomal Localization of Complex and Simple Repeated Human DNAs" * abstract; pages 30,31 *	1,2	
A	CHEMICAL ABSTRACTS vol. 100, no. 13, 26 March 1984, page 160, abstract no. 97558g, Columbus, Ohio, US; J.T. EPPLEN et al.: "An attempt to approach the molecular mechanisms of primary sex determination: W- and Y-chromosomal conserved simple repetitive DNA sequences and their differential expression in mRNA" & J. Exp. Zool. 1983, vol. 228, no. 2, pages 305-312	1-4	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)  C 12 Q 1/68
Place of search  Berlin		Date of completion of search  10 October 90	Examiner  JULIA P.
<b>CATEGORY OF CITED DOCUMENTS</b> X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention		E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document	



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## EUROPEAN SEARCH REPORT

Application Number

EP 87 11 6408

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Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
A	<p>NUCLEIC ACIDS RESEARCH vol. 6, no. 10, 1979, pages 3177-3197, London, UK; H.J. COOKE et al.: "Cloning of human satellite III DNA: different components are on different chromosomes"</p> <p>* the whole document, in particular pages 3186,3187 *</p> <p style="text-align: center;">- - - - -</p>	1-4	
			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
The present search report has been drawn up for all claims			
Place of search		Date of completion of search	Examiner
Berlin		10 October 90	JULIA P.
<p><b>CATEGORY OF CITED DOCUMENTS</b></p> <p>X: particularly relevant if taken alone  Y: particularly relevant if combined with another document of the same category  A: technological background  O: non-written disclosure  P: intermediate document  T: theory or principle underlying the invention</p> <p>E: earlier patent document, but published on, or after the filing date  D: document cited in the application  L: document cited for other reasons</p> <p>.....  &amp;: member of the same patent family, corresponding document</p>			